Wirral Community NHS
NHS Trust

PROCEDURE FOR 24 HOUR AMBULATORY BLOOD PRESSURE MONITORING (ABPM)

Issue History	Issue Version	Purpose of Issue/Description of Change	Planned Review Date
	1	To accurately perform and obtain a 24 hour ambulatory blood pressure measurement in a community setting	2016
Named Responsible Officer:-		**Approved by**	**Date**
Heart Support Lead		Quality, Patient Experience and Risk Group	February 2013
Section:- CP19		**Target Audience** Clinical staff employed within Wirral Heart Support who carry out this procedure as part of their role and job description.	

UNLESS THIS VERSION HAS BEEN TAKEN DIRECTLY FROM TRUST WEB SITE THERE IS NO ASSURANCE THIS IS THE CORRECT VERSION

CONTROL RECORD			
Title	Procedure for 24 hour Ambulatory Blood Pressure		
Purpose	This procedure is to ensure the effective, co-ordinated management of ambulatory blood pressure monitoring undertaken by all clinical staff within the department, who have been trained and assessed to be competent when undertaking this procedure.		
Author	Quality and Governance Service (QGS)		
Equality Assessment	Integrated into procedure	**Yes**	No
Subject Experts	Heart Support Lead		
Document Librarian	QGS		
Groups consulted with :-	Clinical Policies and Procedures Group		
Infection Control Approved	February 2013		
Date formally approved by Quality, Patient Experience and Risk Group	February 2013		
Method of distribution	Email √	Intranet √	
Archived	Date 26th February 2013	Location:- S Drive QGS	
Access	Via QGS		

VERSION CONTROL RECORD			
Version Number	**Author**	**Status**	**Changes / Comments**
Version 1	Quality and Governance Service	N	First version

INTRODUCTION

Hypertension is one of the most important preventable causes of premature morbidity and mortality in the UK.

Ambulatory Blood Pressure monitoring (ABPM) involves a cuff and bladder connected to electronic sensors which detect changes in cuff pressure and allow blood pressure to be measured oscillometrically. The cuff is inflated by a battery powered compressor and sensors within the cuff detect changes in pressure oscillations during cuff deflation. Thus a patient's blood pressure can be automatically measured at repeated intervals (commonly every 30 minutes) throughout the day and night, while they continue routine activities.

TARGET GROUP

The procedure applies to all clinical staff employed within Wirral Heart Support who carry out this procedure as part of their role and job description.

TRAINING

All staff in the Trust are required to comply with mandatory training as specified in the Trusts Mandatory Training Matrix. Clinical Staff are also required to comply with service specific mandatory training as specified within their service training matrix.

Ambulatory Blood pressure monitoring is an extended competency of a registered nurse or clinical technician. All appropriate staff need to have been trained and have had their competence assessed by a registered nurse. A record of this is kept in their personal file.

RELATED POLICIES

Please refer to relevant Trust policies and procedures

REFERRAL

Accurate patient information is required using the appropriate referral form. Information should include the indication for ABPM monitoring (see below) and any other relevant information deemed appropriate by the referring clinician. This will enable the correct triage and application of the appropriate monitor, in the most timely manner.

INDICATIONS

Patients who have been assessed by a Registered Nurse or General Practitioner and have been identified as requiring ambulatory blood pressure measurement as per the NICE Guidelines 2011.

Patients who display sporadic or drug resistant hypertension or other reason deemed appropriate by the General practitioner.

CAUTIONS

Rhythm disturbances, especially atrial fibrillation can affect BP measurement using an Omron (or equivalent) digital blood pressure device. Refer to the manufacturers' user manual for further advice.

CONSENT

Valid consent must be given voluntarily by an appropriately informed person prior to any procedure or intervention. No one can give consent on behalf of another adult who is deemed to lack capacity regardless of whether the impairment is temporary or permanent. However such patients can be treated if it is deemed to be within their best interest. This must be recorded within the patient's health records with a clear rationale stated at all times. Refer to Trust Patient Information and Consent Policy for further information and guidance.

Diagnostic and Screening Standards to Promote and Maintain Patient Safety

	Description of how each step in the process is undertaken	Additional comments:-
a. How the Screening/Diagnostic procedure is requested	Service Specific referral form	
b. How the clinician treating the patient is informed of the results (including timescales)	Fax result to GP with a copy of the Hypertension Guidelines for diagnosis and treatment. Within 5 working days from result to fax	
c. How the patient is informed of the results (including timescales)	Via GP within 10 working days	Patient informed at fitting to contact GP after 10 working days. Confirmed by patient Information Leaflet
d. Taking action on the result of diagnostic /screening tests (including timescales) :-	For GP or requesting clinician to action the result.	
→ documentation of the result	Filed in WICC clinical notes	
→ interpretation of the result	By referring clinician	
→ how patient is followed up or referred following a screening	By referring clinician	
Which staff are authorised to request this test?	GPs Heart failure Specialist Nurses, GPWSIs and cardiac rehab clinicians	

EQUIPMENT

- Installed Spacelabs software
- Ambulatory Blood Pressure Monitors
- Monitor pouches
- Belts
- Various cuff sizes
- Relevant documentation
- Envelopes
- Spare batteries
- Single use disposable cuff cover
- Trust approved cleaning wipe

PROCEDURE

ACTION	RATIONALE
Ensure patient notes and all required equipment and documentation is available prior to the start of the clinic.	To ensure good time management and smooth running of the clinic.
Verbally confirm the identity of the patient by asking for their full name and date of birth. If client unable to confirm, check identity with family/carer	To avoid mistaken identity
Introduce yourself as a staff member and any colleagues involved at the contact	To promote mutual respect and put client at their ease
Wear identity badge which includes name status and designation	So client knows who they are seeing and to promote mutual respect
Ensure verbal consent for the presence of any other third party is obtained e.g students	To respect the rights of the client and enable them to decline if they wish to do so .
Explain procedure to patient including risks and benefits and gain valid consent.	To ensure client understands procedure and relevant risks
Initialise the ambulatory blood pressure monitor, using the installed Spacelabs software.	This allows patient data and correct monitoring details to be entered onto the monitor using compatible software.
Blood pressure readings will be taken every 30 minutes until 23:00hrs and hourly overnight until 7:00hrs. Then readings will be taken every 30 minutes until removal of the monitor and cuff. Times can be adjusted for nightshift workers, to account for nocturnal dip in BP.	To ensure accuracy of results.

Decontaminate hands prior to procedure	To reduce the risk of transfer of transient micro-organisms on the healthcare workers hands.
Ascertain which arm the cuff is to be applied to and visually assess the size of the cuff required. If the patient is right handed the cuff is applied to the left arm and vice versa - unless contra-indicated. Select the appropriate cuff size.	To ensure the cuff placement is as unobtrusive as possible to the patient, as they will be wearing it for 24 hours. Using the wrong sized cuff can effect the readings obtained (NICE 2006)
Ask the patient to remove any tight arm clothing. Assist the patient if required, ensuring that privacy and dignity are maintained at all times.	Allows the cuff to be applied in the correct position thus reducing the potential for error.
Check skin condition of the upper arm.	If the patient's arm is swollen/oedematous or has any breaks do not continue, seek advice.
The patient should be seated in a temperate environment and relaxed for at least 5 minutes prior to taking measurement.	To minimise the effects of the environment on the reading obtained (NICE 2006).
Apply single use disposable cuff cover.	To increase patient comfort and reduce potential risk of cross infection as cuffs are material and non wipeable.
Apply the cuff on the appropriate arm. Thread the tubing around the back of the patient's neck, down the front of their body, underneath their clothes and connect to the monitor at waist level. The monitor should then be placed in the pouch and secured on a belt (provide if required) around the waist.	To ensure the tubing is as unobtrusive as possible for the patient The monitor is secure, To prevent damage and to enable accurate readings to be taken.
Patient clothing can then be re-applied, fitting loosely around the cuff area.	To allow the cuff to inflate sufficiently to obtain correct blood pressure readings.
Decontaminate hands on completion of procedure	To remove the accumulation of transient micro organisms
Instruct patient to keep a relaxed arm and not to talk whilst readings are being taken and that if a reading is not obtained, the machine will take it again after 5 minutes. Inform the patient that if they are driving and the cuff inflates to ignore it until they can pull over safely. If the monitor does not obtain the reading then it will repeat the process after 5 minutes. Instruct the patient not to get the monitor wet.	To ensure the optimum amount of readings are obtained and they are accurate. To ensure patient safety. To prevent monitor malfunction.

Instruct patient to put the monitor under the pillow or on the bedside table when sleeping. To keep the tubing intact but remove it from around their neck	To ensure patient safety.
Instruct the patient to remove the cuff and switch off the monitor at an agreed time. Once the 24 hour monitoring period is complete.	To stop the monitor inflating the cuff unnecessarily
Instruct the patient to place the monitor, pouch, belt (if provided) and cuff in the envelope provided and returned to the department on the date and time agreed.	Ensures the monitor is returned in a timely manner, for use in the next clinic.
Supply the patient with a written copy of the instructions, including a contact number, diary sheet and envelope.	For patient to refer to and in the event of any problems enables them to contact the dept for advice. The diary sheet allows comparison of any events or symptoms, with the blood pressure readings taken at that time. The envelope is to enable the return of the equipment.
Obtain patient signature on equipment receipt and check understanding of procedure requirements. Answer any questions and re-iterate the date/time of monitor return.	To ensure patient compliance with procedure in order to obtain accurate results and safe return of equipment.
Clean equipment upon return using trust approved cleaning wipe	Decontamination of medical equipment is essential for the effective delivery of patient care.
Upload monitor onto computer using Spacelabs software and print.	In order to acquire patient results.
Fax results to the Referring Practitioner with accompanying NICE guidelines on hypertension treatment options.	Patient's GP to make timely clinical decisions and adapt the patient's treatment, if required.

EQUIPMENT

The accuracy of the ambulatory blood pressure reading obtained is highly dependent upon proper use of the equipment provided.

ABPM pressure monitoring equipment once past it's manufacturers Warranty is calibrated annually by the manufacturer via an annual maintenance contract. It is the responsibility of the Service Lead to have a system in place to monitor and maintain quality assurance with this standard.

WERE TO GET ADVICE FROM

Specialist advice may be sought from the technical clinical assistant or clinic coordinator

INCIDENT REPORTING

Clinical incidents or near misses must be reported and a Trust Incident Form must be completed via the Trust's incident reporting system.

SAFEGUARDING

In any situation where staff may consider the patient to be a vulnerable adult, they need to follow the Trust Safeguarding Adult Policy and discuss with their line manager and document outcomes.

REFERRALS

Any referrals to health professionals, therapists or other specialist services must be followed up and all professional advice or guidance documented in the patients health records.

EQUALITY ASSESSMENT

During the development of this procedure the Trust has considered the clinical needs of each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation). There is no evidence of exclusion of these named groups.

If staff become aware of any clinical exclusions that impact on the delivery of care a Trust Incident form would need to be completed and an appropriate action plan put in place.

REFERENCES

NICE CG127 (August 2011) Hypertension: Clinical management of primary hypertension in adults

APPENDIX 1

Space Lab 24 Hour Blood Pressure Monitor
How to Initialise the Monitor

1. Place new batteries in the monitor.
2. Switch monitor on.
3. Attach the Monitor to the interface cable (place connection arrow to arrow).
4. On the PC double click on the ABP Report Management Icon.
5. Input User I.D.
6. Input Password
7. Ensure Caps lock is on and input patient data.
8. NHS Number is used as the patients I.D. number.
9. 'Click "Next".
10. Click "Initialise Monitor".
11. Click Finish.

NB* If 'monitor contains unprocessed data' appears and the previous patients data has not been downloaded, click on cancel and download the data first. Now you can start the initialising procedure again (if you do not require the data click on OK).

How to Download the Readings

1. Switch the monitor on.
2. Attach the monitor to the interface cable (place connection arrow to arrow).
3. On the PC double click on the ABP Management Report icon.
4. Input user I.D. and Password. (see initializing monitor above.)
5. If the same computer is used as for the initialising process then the patient data should already be available. If not then you should input it as for initialisation. (see above).
6. Click download data.
7. Click print icon.

8. Patient information should appear. Fill in any additional patient information e.g. age, sex, medication and GP details.

9. To view patient results, click on ‘Review’ and choose what you would like to look at.

10. Click on the printer icon and the ‘Report Components’ menu will appear.

11. Select - Patient Information, Raw data graph, Statistical Summary and Caliper data (3 sheets will print out).

12. Place all paperwork including the patient diary and receipt for equipment in the patients file ready for review by specialist GP.

RISK ASSESSMENT FOR SCREENING PROCEDURE

Name of Screening Procedure: 24 hour ambulatory blood pressure monitoring
Date risk assessed: 4th December 2012
Risk assessed by: Heart Support Lead

Criteria	Likelihood that process will fail			Risk identified in process	Mitigation/Controls
	Low	Medium	High		
a. Process for requesting the screening/diagnostic procedure	X			Fax machine malfunction	Maintenance of fax machine and checked regularly throughout the day.
b. Process for informing the clinician treating the patient of the result	X			Fax machine malfunction. Mislaid casenotes/results GP practices do not process faxes immediately and there is a delay in the GP seeing the scanned results on screen. Multiple requests to service from GP practice for previously faxed result that 'sits' in process pile at practice.	Fax machine checked regularly throughout the day. Casenotes/results placed immediately into GPwSI's in tray or faxing tray. IM7T Board aware and have a planned migration in place for phasing out faxed results and move to electronic communication only by end of 2013
c. Process for informing the patient of the result	X			BP monitor malfunction. Delays from GP surgery as above	If monitor malfunctions we can refit. Patient can request copies of clinic letters or discuss at follow up appt or via GP. As above
d/e. Process for action if referral required after a screening test	X			Casenotes/results mislaid	Clinical outcome sheets completed by GPwSI and booked on the day of appointment. Or referred via GP.
Identify risks from the 'process' of conducting the test if relevant	X			BP cuff inflation whilst driving. Entanglement in the cuff and tubing during sleep.	Discussed at appointment advised to ignore whilst driving and pull over when safe to do so . Also to remove tubing from around the neck during sleep and place the monitor next to the bed. Written information also given to patient.